



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,970	07/21/2003	Ulysses Gilchrist	390-011009-US (101)	5343
2512	7590	04/05/2005	EXAMINER	
PERMAN & GREEN 425 POST ROAD FAIRFIELD, CT 06824			LOWE, MICHAEL S	
			ART UNIT	PAPER NUMBER

3652

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/623,970	Applicant(s) GILCHRIST ET AL.	
	Examiner M. Scott Lowe	Art Unit 3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/11/04 &amp; 9/29/03</u> | 6) <input type="checkbox"/> Other: ____  |

### ***Information Disclosure Statement***

The information disclosure statement filed 9/29/03 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information (non-initialed) referred to therein has not been considered.

The parent case has been scanned but the foreign references were left out. Therefore the foreign references are not readily available and copies must be submitted in order for them to be considered.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a) because they fail to show substrate supports 440 (page 9), upper surface 430,435 (page 11) as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and

Art Unit: 3652

where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "265" has been used to designate both a central area and a wafer transfer plane (page 10,16). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the sensor extending inside the magazine (claims 11,30) the sensor mounted to a magazine door drive (claims 14,31) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

Art Unit: 3652

Claim 10 is objected to because of the following informalities: line 3 states "and an is". For sake of examination it is assumed applicant meant to delete the "an".

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6, 10, 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites the limitation "a second axis oriented in a second direction" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim. For sake of examination, it is assumed applicant meant for claim 1 to state "a vertical first axis" in line 11.

Claim 12 recites the limitations "a third axis oriented in a third direction different from the first and second directions" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim. There needs to be a reference to a first and second axis if a third axis is claimed. Furthermore, there is no prior recitation of the first and second directions.

Claim 10 is unclear in that "the vertical location" of line 3 is not assigned to a particular structure. For sake of examination it is assumed applicant meant "the vertical locations of the substrates".

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-10, 12 & 13 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. 6,869,263. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the instant application are a regrouping of the features in patented claims 1-12 and if allowed would preclude use of the patented claims once the patent expired.

Claims 11 & 14-22 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. 6,869,263 in view of Mages (US 5,772,386). Regarding the instant claims, the secondary reference discloses the sensor mountings claimed and renders them obvious as set forth in the following rejections under 35 USC 102 and 35 USC 103.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10,12,13,23-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Mages (US 5,772,386).

Re claims 1,23,24, Mages teaches a substrate processing apparatus having a station for loading and unloading substrates from the apparatus, the station comprising: an aperture closure 12 for sealing a loading and unloading aperture of the station; apparatus (figures 1,4-8) for removing a door 15 of a substrate magazine 6 and thus opening the substrate magazine 6 and for operating the aperture closure 12 to open the aperture; and an elevator 5 for precisely positioning the open substrate magazine 6 along a vertical axis within a usable range of motion.

Re claim 2, Mages teaches the elevator 5 operates such that a substrate within the open magazine 6 is positioned substantially in a wafer transport plane 10, the substrate processing apparatus further comprising a transport apparatus 22 for accessing the substrate in the wafer transport plane 10 through the aperture.

Re claim 3, Mages teaches the elevator 5 includes a device 5,11 for positioning the open substrate magazine 6 such that substantially no vertical movement is required by the transport apparatus.



Re claims 4,25, Mages teaches a substrate buffer for temporary substrate storage.

Re claims 5,26, Mages teaches at least one peripheral area and a central area (see figures, inherent also).

Re claim 6, Mages teaches a buffer transport 5,7 for positioning one or more substrate magazines 6 along a second axis (various) oriented in a second direction (various).

Re claims 7,27, Mages teaches the buffer transport 5,7 is operable to place the one or more magazines 6 in the at least one peripheral area (not numbered) and the central area (not numbered).

Re claim 8, Mages teaches the elevator 5 is operable to move the one or more magazines 6 placed in the central area.

Re claims 9,29, Mages teaches the station further comprises a sensor 21 for mapping vertical locations of the substrates.

Re claim 10, Mages teaches the sensor 21 is mounted to a frame (not numbered) of the station and capable of mapping the vertical location while the elevator is precisely positioning the open substrate magazine along the vertical axis.

Re claim 12, Mages teaches a shuttle 5,7 for transporting the one or more magazines 6 along a third axis (various) oriented in a third direction (various) different from the first and second directions.

Re claims 13,28, Mages teaches a mini-environment (not numbered, see figure 1, etc.) for interfacing the station to the substrate processing apparatus.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11,14-22,30-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mages (US 5,772,386).

Re claims 11,14,30,31, Mages teaches the sensor 21 but is silent as to its mounting. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the sensor mounted in any equivalent known fashion and to any part of the device as long as it still could perform its function for aesthetic reasons. Furthermore, on page 14, lines 17-19, applicant supports this rejection by stating "sensor 245 may be mounted in any orientation at any location so long as sensor 245 is capable of scanning substrates present inside magazine".

Re claims 15,16,32,33, Mages teaches a magazine door drive 12, 32 but does not state explicitly the type of drive. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the drive be any known drive, such a fluidic or pneumatic, in order to save the expense of developing a new type of drive.

Re claims 17,20, Mages teaches the sensor 21 is mounted to a frame (not numbered) of the station and capable of mapping the vertical location while the elevator is precisely positioning the open substrate magazine along the vertical axis.

Art Unit: 3652

Re claims 18,21,35, Mages teaches a sensor 21, that is also an encoder, mounted on the elevator 5 (through 3) for providing elevator vertical position information.

Re claim 19 Mages teaches the substrate locations are determined by recording the elevator vertical position information when the sensor 21 detects an individual substrate.

Re claims 22,34,36, Mages teaches the substrate locations are determined by processing the magazine door drive position information when the sensor 21 detects an individual substrate.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Scott Lowe whose telephone number is 703-305-1940. The examiner can normally be reached on 6:30am-4:30pm M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on 703-308-3248. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3652

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

msl

*Ronald W. Underwood* 03/30/05  
RONALD W. UNDERWOOD  
PRIMARY EXAMINER